PHYS 126 GENERAL PHYSICS II (WITH LAB)

Spring 2022

This semester you will learn about concepts and laws that mathematically describe the universe and serve as the basis for many branches of human endeavor. At the end of this semester, you will have a basic but firm knowledge of interference and optics, electrostatics and circuits, and magnetism and some modern physics concepts. More importantly, you will develop *an attitude of thought and a way of thinking* that will serve you in future studies.

Instructors

Jared Stenson	stenson@rice.edu	713-348-5727	241 BRK
Jason Hafner	hafner@rice.edu	713-348-3205	262 BRK
Stan Dodds	dodds@rice.edu	713-348-2510	215 HRZ

Topics

The course will cover interference, optics, electrostatics, circuits, magnetism, some modern physics. See the Canvas course page for a detailed schedule of topics and corresponding readings.

Textbook

Knight, Randall D., "Physics for Scientists and Engineers: A Strategic Approach with Modern Physics," 4th edition, Pearson Publishing (ISBN: 9780133942651).

Meeting Times

Lecture

Lectures will be presented on Tuesdays and Thursdays from 9:25 – 10:40 am. These will include explanations of the physical concepts and formulas, demonstrations, and solutions to sample problems. The lectures will be delivered in a way that you can ask questions and be actively engaged. The first two weeks will be delivered remotely but synchronously via Zoom. After that time we will reassess based on developing Rice policy during the COVID-19 pandemic.

Office Hours

The instructors will hold office hours at various times throughout the week. These are good times to get clarifications on physical concepts and to get help on moving forward with homework problems. These are for discussion and interaction. They are NOT a time to simply watch the instructor solve homework problems or to sit in their offices while you silently work on homework problems.

Dr. Stenson: Monday 11:00 am - 12:00 pm, Tuesday 2:00 - 3:00 pm, 241 BRK, other times by appointment
Dr. Hafner: Tuesday 3:00-4:00, Thursday 3:00-4:00, BRK 262

Canvas Homework
Weekly graded homework assignments will be available through Canvas. These problem sets are due on Wednesdays and cover the previous week's material. Canvas Homework is not pledged, so you may talk to the instructors and other students about how to solve them, *but you are advised to work on your homework individually for as long as you are making progress*. Discussing, articulating, and learning from your peers can be helpful but it must remain constructive (reasoning-centered and independent rather than answer-centered and conforming). If you need help from others you may collaborate but do not confuse this with the important task of making progress on your own. Working wisely on these problems is an essential part of your training and it will improve your performance on exams. Letting a classmate solve a homework problem for you is like an athlete letting a teammate workout for them, it will lead to defeat.

Suggested Problems
These are problems from the textbook that are relevant to the material we will cover. They are not required and have no impact on your grade. They are simply offered for more problem-solving practice.

Pledge Problems
Four pledge problems will be assigned during the semester, usually before an exam. These are extensive problems that students must complete *on their own* (they are "pledged"). They are intended to let students check and deepen their understanding of the material and prepare them for the exams. Students will have one week to work on them. They will be turned in in the box across from BRK 241.

Laboratory
The laboratory portion of the course meets 7 times over the course of the semester. You should submit your preference form no later than 5:00 pm on Thursday, Aug. 26th to Stan Dodds in HRZ 215. The form will be given to you on the first day of class and may be found in the lab portion of the Canvas course page. Your lab meeting time will be posted on Canvas by 5:00 pm on Friday, Aug. 30th after compiling student preferences. Though your lab instructor will make clear any specific expectations for the laboratory portion of the course, you are expected to prepare for the labs in advance (including the first lab) by reading over the material. Your lab grade will be determined by Prof. Stan Dodds and your individual lab instructor. Please refer any questions you might have about the labs to them. More information is given on the lab page.

Exams
There will be two midterm exams and a final exam. The midterm exams will be held from 7:00 to 9:00 pm on Friday, February 18th, and Friday, March 25th. These exam times are not optional or flexible, apart from individual allowances for documented illnesses, personal emergencies, and extra time through DSS policies.

Late Policy
Canvas Homework is set to automatically deduct 25% per day the assignment is

late. Pledge Problems and Exams cannot be accepted late except for individual cases of documented illness or personal emergency.

Honor Code
We expect you to uphold the ideals set out by the honor council for Rice University students. More information can be found at http://honor.rice.edu/Links to an external site.. Students caught cheating will be reported to the Honor Council and the instructors will suggest the maximum allowable penalty.

Grades
Your total scores in each category will be combined with the following ratios to calculate your final grade:

Canvas Homework 11%
Pledge Problems 10%
Laboratory 13%
Midterm Exam 1 22%
Midterm Exam 2 22%
Final Exam 22%

The following are tentative minimum final scores for letter grades. These may be lowered, but will not be raised.

A- 87%
B- 77%
C- 67%
D- 57%

Technology Requirements
Students should have internet access and check the course Canvas pages regularly for updates, announcements, and to complete the weekly Canvas homework. The most up-to-date browser works best with Canvas. Undergraduate students should contact the Dean of Undergraduates if they have concerns about access to technology for meeting this requirement.

Students with Disabilities
Any student with a documented disability seeking academic adjustments or accommodations is requested to speak with Dr. Hafner during the first two weeks of class. All such discussions will remain completely confidential. Any documentation must come directly from the Disability Support Services in Allen Center.

Title IX Responsible Employee Notification

Rice University cares about your wellbeing and safety. Rice encourages any student who has experienced an incident of harassment, pregnancy discrimination or gender discrimination or relationship, sexual, or other forms interpersonal violence to seek support through The SAFE Office. Students should be aware when seeking support on campus that most employees, including myself, as well as the instructor/TA, are required

by Title IX to disclose all incidents of non-consensual interpersonal behaviors to Title IX professionals on campus who can act to support that student and meet their needs. For more information, please visit safe.rice.edu or email titleixsupport@rice.edu.

Disclaimer

The syllabus is subject to change at the discretion of the instructors. Students will be notified ahead of time before any changes take effect.